

AMENDMENTS TO THE SPECIFICATION

Please insert the following new paragraph on page 1 between the Title and the first line on page 1:

This is a 371 national stage application of International Patent Application No. PCT/EP2004/014390, filed on December 17, 2004, that has priority benefit of European Patent Application No. 04405004.5, filed on January 5, 2004.

Please replace the paragraph on page 1, line 30, to page 2, line 4, with the following amended paragraph:

The object of the invention is to provide a flexible substrate of the kind mentioned at the start which can be produced in a simple and cost-favorable ~~cost favourable~~ manner. A further objective of the invention is the creation of a flexible substrate in the form of a flat strip-type cable which is resistant to the influence of weathering. According to another objective the flat strip-type cable should offer the advantages of a conventional electrical cable with twisted conductors and/or with electromagnetic screening.

Please replace the paragraph on page 2, lines 6 to 11, with the following amended paragraph:

These objectives are achieved by way of the invention in that the, at least one, electrically conductive structure is provided between the base layer and at least one top layer of plastic and each of the possible subsequent further electrically conductive structures between pairs of subsequent further top layers, and the base layer is joined to at least one top layer and each of the possible further top layers to the neighboring ~~neighbouring~~ top layers.

Please replace the paragraph on page 3, lines 4 to 6, with the following amended paragraph:

The base layer and the, at least one, top layer or in the case of further top layers at least the top layer furthest removed from the base layer may each exhibit a barrier layer to prevent the passage of water vapor vapour.

Please replace the paragraph on page 3, lines 8 to 9, with the following amended paragraph:

In principle all barrier layers that are suitable as barriers to water vapor vapour may be employed for that purpose. Among the particularly preferred barrier layers are those layers that of at least one of the substances: aluminium, Al_2O_3 or SiO_x where $0.9 < x < 2$, in particular $1.2 < x < 1.8$.

Please replace the paragraph on page 3, lines 13 to 21, with the following amended paragraph:

A particularly robust, flexible substrate that is impervious to water vapor vapour and exhibits electromagnetic screening properties exhibits a barrier layer in the form of an aluminium aluminium foil which is bonded to the base layer and at least one top layer or, in the case of further top layers, at least to the top layer furthest removed from the base layer and is electrically insulated from the electrically conductive structure. Hereby, the aluminium aluminium foil may in principle be situated within a multi layer laminate. Preferred, however, is an arrangement in which the aluminium foil is situated on the outside of the base layer and on the top layer furthest removed from the base layer.

Please replace the paragraph on page 4, lines 13 to 17, with the following amended paragraph:

The water-tight, flexible substrate with electrically conductive structure which can be produced in a cost favorable ~~cost favourable~~ manner using the process according to the invention opens up a wide range of applications from high frequency power transfer with flat strip-type cables to heating mats for under-floor heating systems.

Please replace the paragraph on page 5, lines 9 to 21 with the following amended paragraph:

A first version of a flexible substrate 10 comprises, as shown in Fig. 1, a base layer 12, one side of which is bonded to a barrier layer 16 e.g. in the form of an aluminium ~~aluminium~~ foil, while the other side bears a printed electrically conductive structure 20 e.g. in the form of electrically conductive strips of electrically conductive ink. The printed side of the base layer 12 is joined to a top layer 14 e.g. of polyethylene via an intermediate layer 13 in the form of a permanent adhesive e.g. a polyurethane-based adhesive. The top layer 14 is likewise joined on the side away from the adhesive to a barrier layer 16 in the form of an aluminium ~~aluminium~~ foil. Both aluminium foils on the outside prevent water vapor ~~vapour~~ from penetrating into the base layer 12, the top layer and into the intermediate layer and thus to the printed structure 20. At the same time, the outer lying aluminium foils provide electromagnetic screening for the electrically conductive structure 20 lying in between.

Please replace the paragraph on page 5, lines 26 to 30 with the following amended paragraph:

A second version of a flexible substrate 10 shown in figure 2 exhibits a base layer 12, e.g. of polyethylene, one side of which is joined to a barrier layer 16 e.g. in the form of an aluminium aluminium foil. Printed on the side of the base layer 12 not bonded to the barrier layer 16 is an electrically conductive structure 20 in the form of conductive strips of electrically conductive ink. Provided on the side of the base layer 12 bearing the electrically conductive structure 20 is an electrically insulating intermediate layer 18 made of plastic, e.g. polyethylene.

Please replace the paragraph on page 6, lines 1 to 11, with the following amended paragraph:

In the same manner as with the base layer 12, a top layer 14 e.g. of polyethylene with an aluminium aluminium foil acting as a barrier layer 16 is provided with a further electrically conductive structure 22. An intermediate layer 18 e.g. of an electrically insulating polyolefin-based adhesive is provided between the electrically conductive structure 20 on the base layer 12 and the further electrically conductive structure 22 on the top layer 14. Such a symmetrical substrate 10 can be made in a simple manner by folding the base layer 180° over itself along a line of symmetry so that the top layer 14 with the inner lying electrically conductive structure 22 and the outer lying aluminium aluminium foil is created from the base layer 12 with the inner lying electrically conductive structure 20 and the outer lying aluminium aluminium foil acting as barrier layer 16.

Please replace the paragraph on page 6, last line, to page 7, line 5, with the following amending paragraph:

A foil of aluminium aluminium which is extrusion-bonded to the base layer 12 and top layer 14 is employed by way of preference as the barrier layer 16. Hot sealing of the base layer 12 bearing a barrier layer 16 and a first electrically conductive structure 20 to the top layer 14 bearing a barrier layer 16 and a second electrically conductive structure 22 may be performed e.g. via a separate plastic film that can be hot-sealed hot-sealed situated between the strips of material 26, 28.